

FINAL PHASE I GROUND WATER INVESTIGATION REPORT

San Mateo Creek Basin Uranium Legacy Site

Management Update

August 24, 2016

*Charge to
San Mateo Creek Basin
A6K6 T Fund*

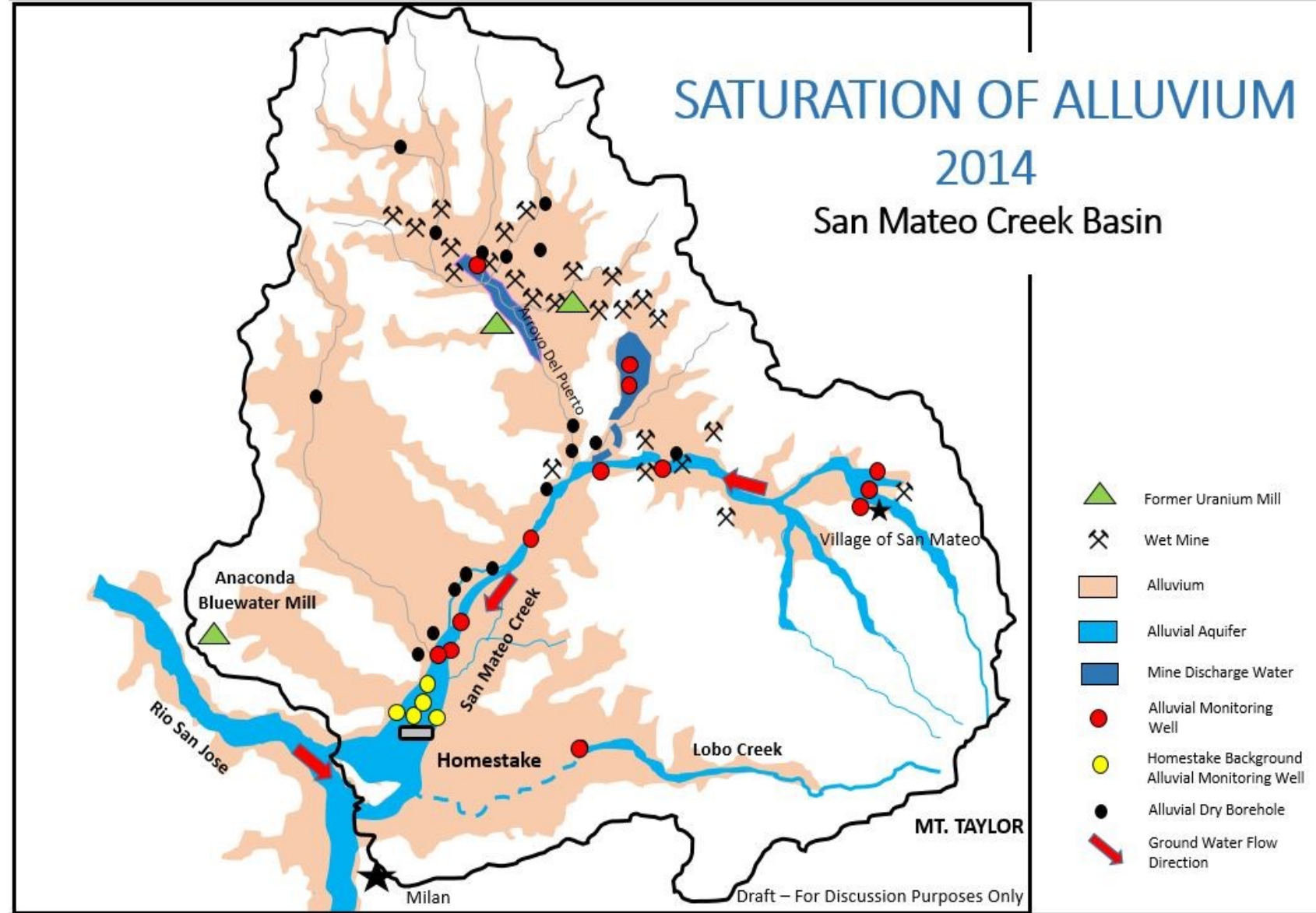
SUMMARY OF CONCLUSIONS

Alluvial Aquifer

- Attempt to Characterize Background had Mixed Results
 - Lack of Natural Saturation in Many Areas Investigated
- Water Quality Varies Across Basin
 - Good quality upgradient of mines and mills
 - Meets standards
 - Poor quality downgradient of mines and mills
 - Exceeds standards
 - Similar to mine discharge water quality
- Mine Discharge Water Draining Through and Out of Alluvium

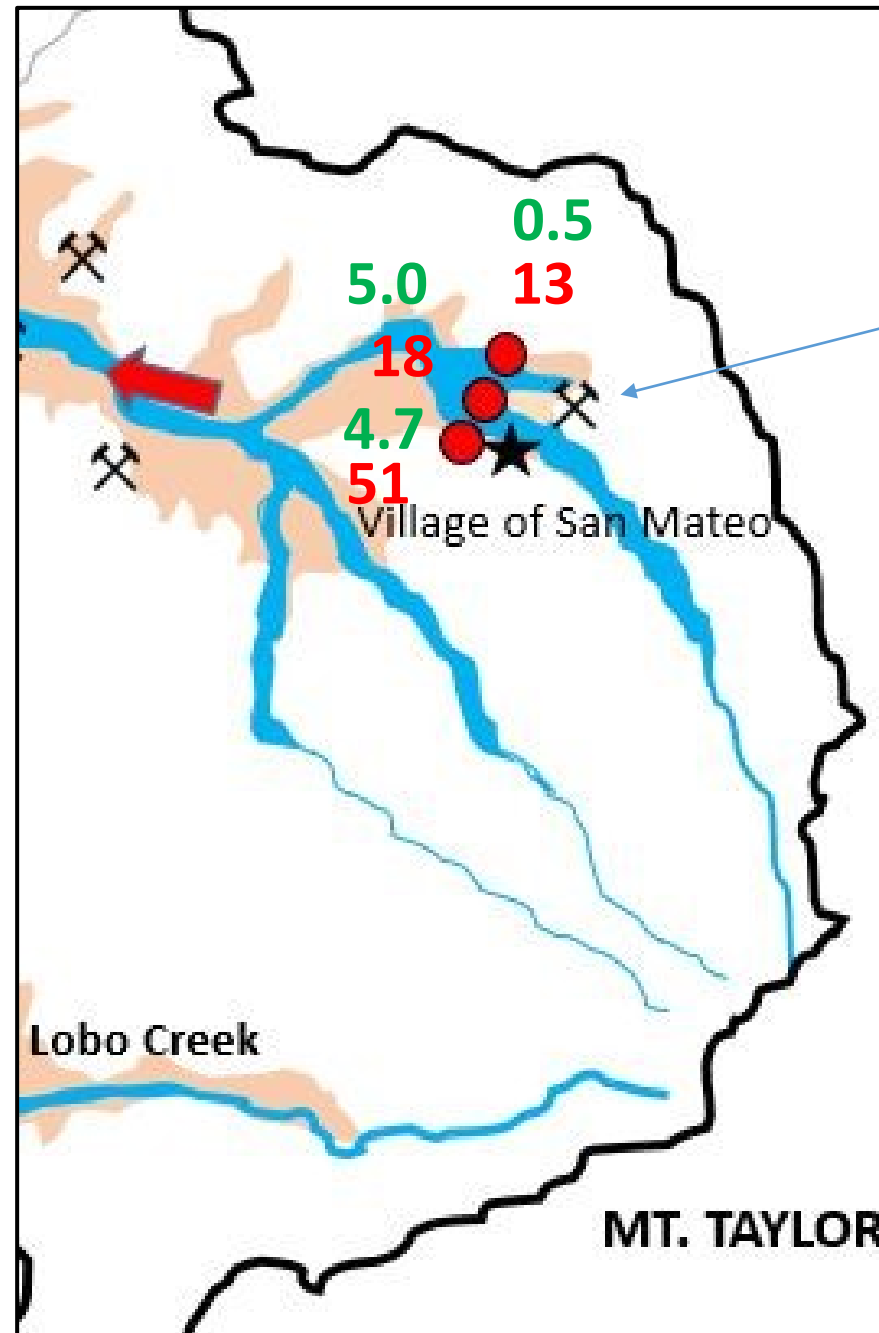
Conclusion No. 1

Limited Saturation in Alluvium



Conclusion No. 2

- Significant saturation near village of San Mateo
- Ground water quality below standards, except for Gross Alpha
- Radium 226 elevated, but below standard



Chevron
Mount Taylor Mine

51.0 Gross Alpha
5.0 Radium 226

Conclusion No. 3

- Alluvial ground water downgradient of legacy mines exceed standards
- In comparison to background wells:
 - Greater than 3 times background
Uranium
Selenium
Total Dissolved Solids
Sulfate

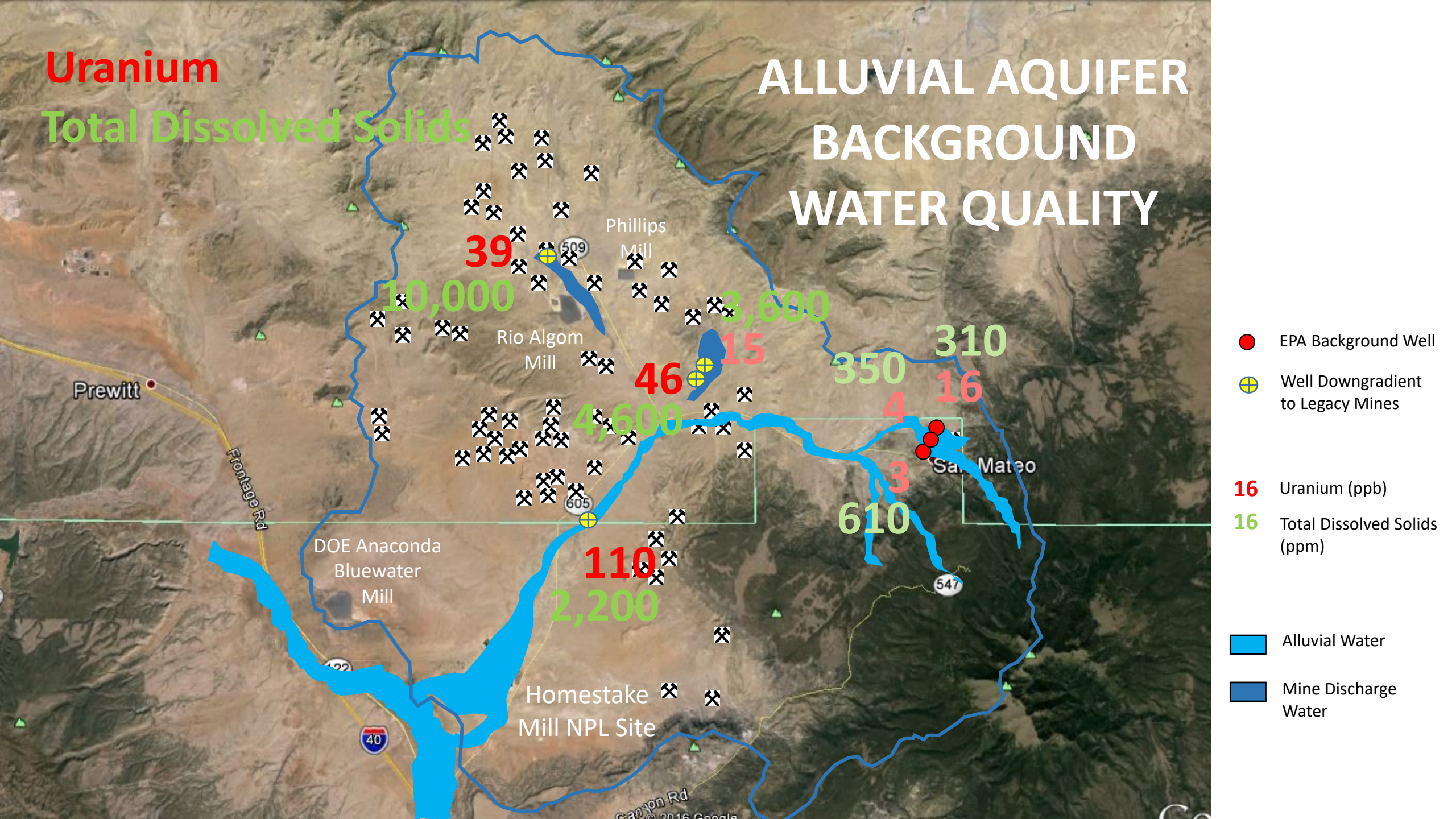
Conclusions No. 4 & 6

- Alluvial water downgradient of Rio Algom Mill and Sec 35/Cliffside Mines of poorest quality
- May be mine discharge water
- Draining into bedrock formations

Uranium

Total Dissolved Solids

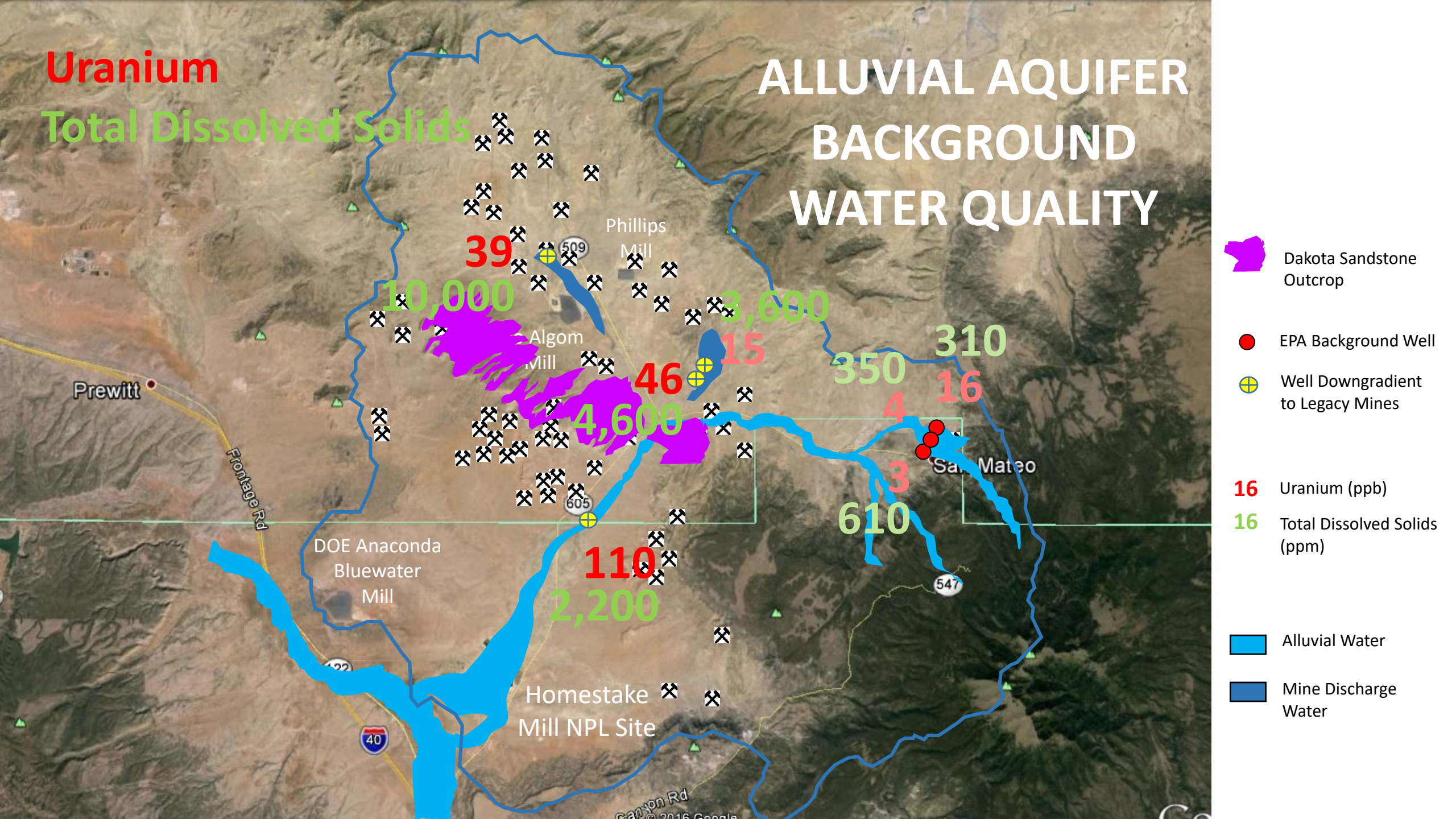
ALLUVIAL AQUIFER BACKGROUND WATER QUALITY



Uranium

Total Dissolved Solids

ALLUVIAL AQUIFER BACKGROUND WATER QUALITY

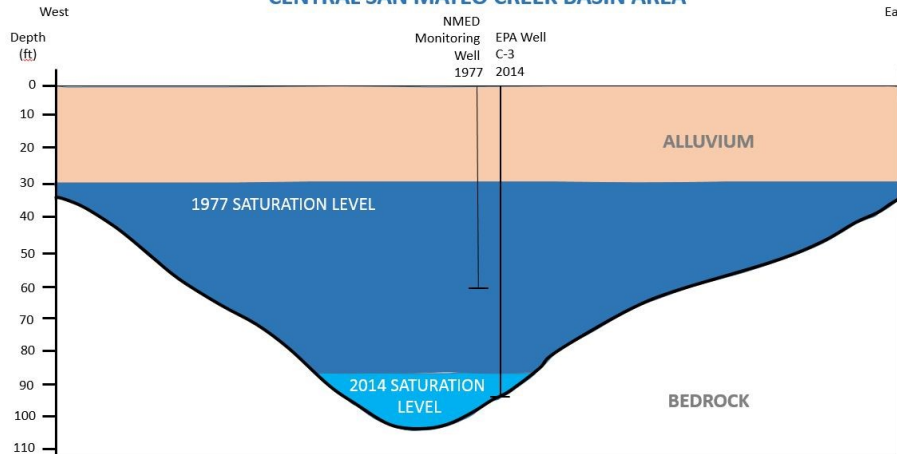


Conclusion No. 5

- Mine water discharges resulted in saturation and desaturation of Alluvium on massive scale
- Water levels in central part of basin raised and dropped over 50 feet
- Drain down not observed at Homestake

CROSS SECTION A - A'

CENTRAL SAN MATEO CREEK BASIN AREA

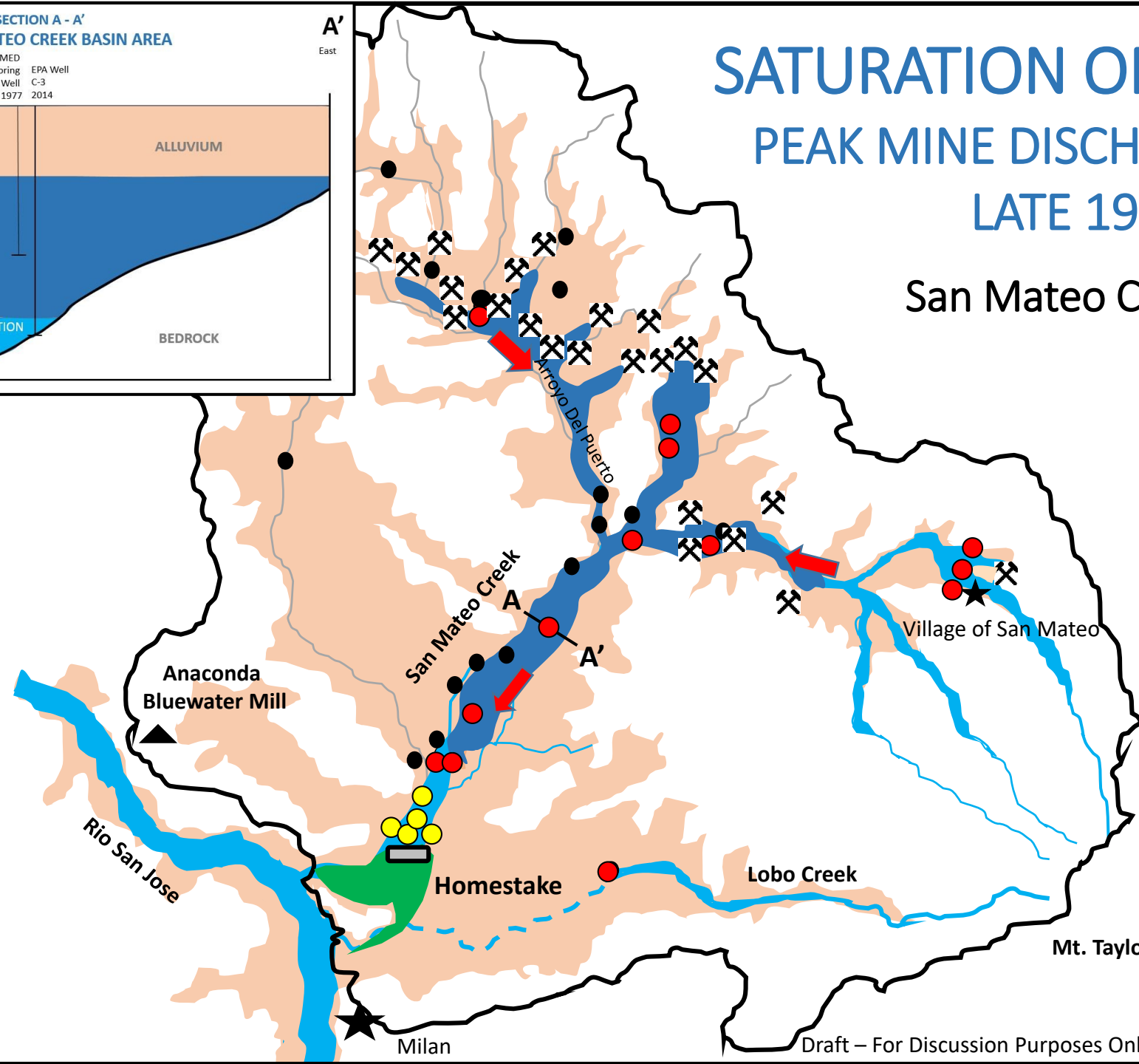


SATURATION OF ALLUVIUM

PEAK MINE DISCHARGE PERIOD

LATE 1970S

San Mateo Creek Basin

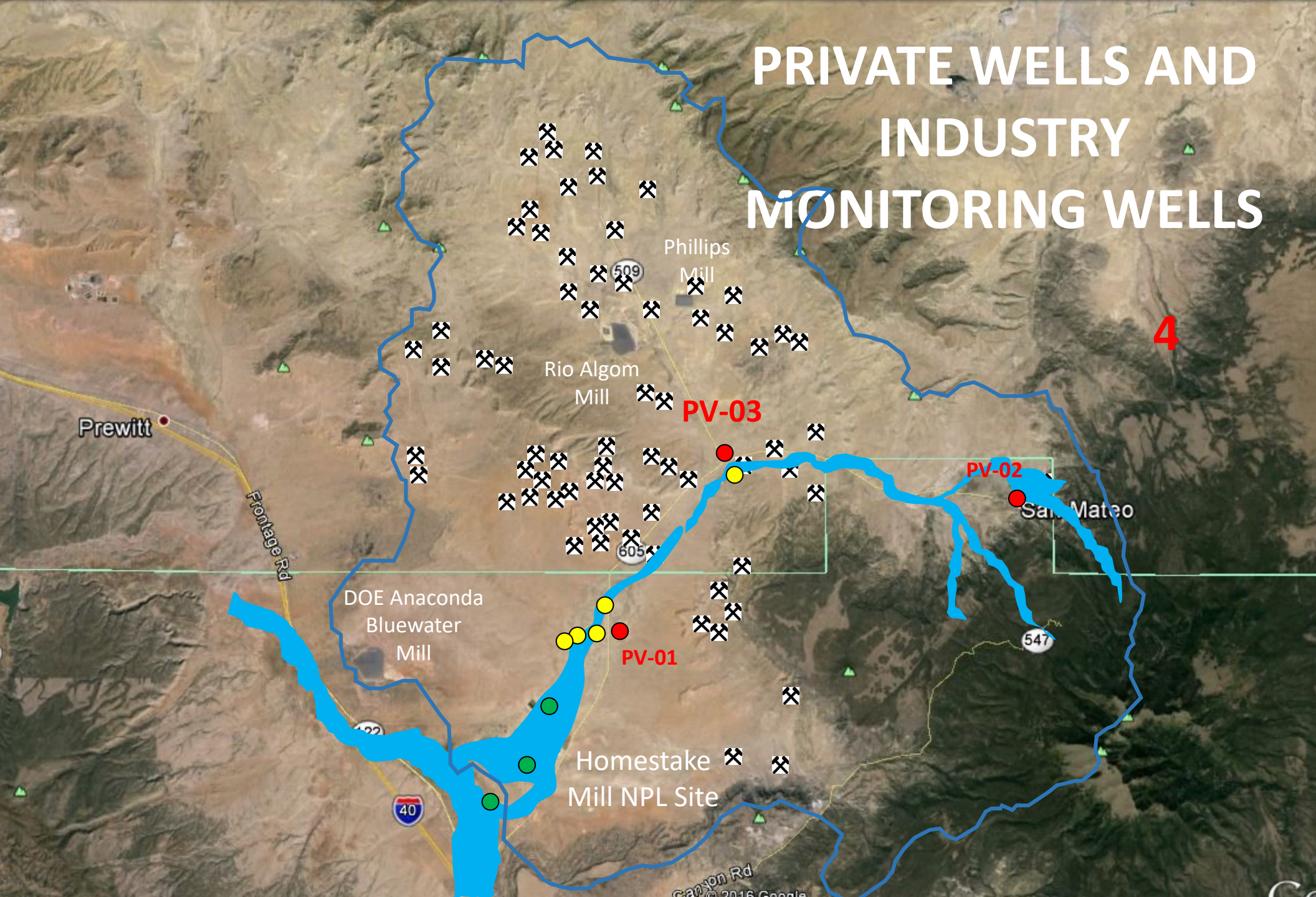


- Alluvial Aquifer
- Tailing Seepage Impacts
- Mine Discharge Water
- Alluvium
- Alluvial Monitoring Well
- Homestake Background Alluvial Monitoring Well
- Alluvial Dry Borehole
- Wet Mine
- Ground Water Flow

Conclusion No. 7

- 12 private wells and other industry monitoring wells exceeded standards
- Only 3 of 12 wells used for drinking water supply
- Only 1 of the 3 exceeded EPA MCLs or NM drinking water standards (PV-03)
- Point of Use Treatment Systems installed by Removal at home for PV-03

PRIVATE WELLS AND INDUSTRY MONITORING WELLS



- Private Well
- Other Private Well (Livestock Watering or industry Monitoring Well)
- Other industry Monitoring Well San Andres/Glorieta

Phase I Report Roll-Out

- August 25 – Brief SF Director
- By September 1 – Send to Federal Partners (R9, NMED, MMD, DOE, NRC, BLM, DOI, USFS, USGS)
- September 16 – Public Release
 - Website
 - Tribal Contacts
 - DVDs as Requested
- October 19/20 – Tronox Quarterly Presentation (Navajo, R9, State)
- Week of November 14 – Public Meetings

Other Slides

ALLUVIAL AQUIFER MINE WATER DISCHARGE IMPACTS

